

5148902



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D6210
Job Sheet 189126



Part No: D6210

Job Qty: 60 ft

Part Name: Tube, Seamless



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/18/19

Job Tracking No:

Due Date: 1/30/19

Created By: Chantal Lavoie

Type: Stock

Description:

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing - Ft	60 ft	1/30/19	0.00	0.00	0.00	Purchasing - 1	6	AT 1/20/29
							Purchasing - 2	6	
							Purchasing - 3	6	
110	Packaging 2-1 - Receive - B4B	60 pcs	1/30/19	0.00	0.00	0.00	Packaging 2 - 1 - B4B		AT 1/20/29
							Packaging 2 - 2 - B4B		
							Packaging 2 - 3 - B4B		
							Packaging 2 - 5 - B4B		
							Packaging 2 - 4 - B4B		
							Packaging 2 - 6 - B4B		
							Packaging 2 - 7 - B4B		
							Packaging 2 - 8 - B4B		
							Packaging 2 - 9 - B4B		
							Packaging 2 - 10 - B4B		
							Packaging 2 - 11 - B4B		
							Packaging 2 - 12 - B4B		
							Packaging 2 - 13 - B4B		
							Packaging 2 - 14 - B4B		
							Packaging 2 - 15 - B4B		
							Packaging 2 - 16 - B4B		
							Packaging 2 - 17 - B4B		
							Packaging 2 - 18 - B4B		
							Packaging 2 - 19 - B4B		
							Packaging 2 - 20 - B4B		
							Packaging 2 - 21 - B4B		
							Packaging 2 - 22 - B4B		
							Packaging 2 - 23 - B4B		
							Packaging 2 - 24 - B4B		
							Packaging 2 - 25 - B4B		
							Packaging 2 - 26 - B4B		
							Packaging 2 - 27 - B4B		
							Packaging 2 - 28 - B4B		
							Packaging 2 - 29 - B4B		

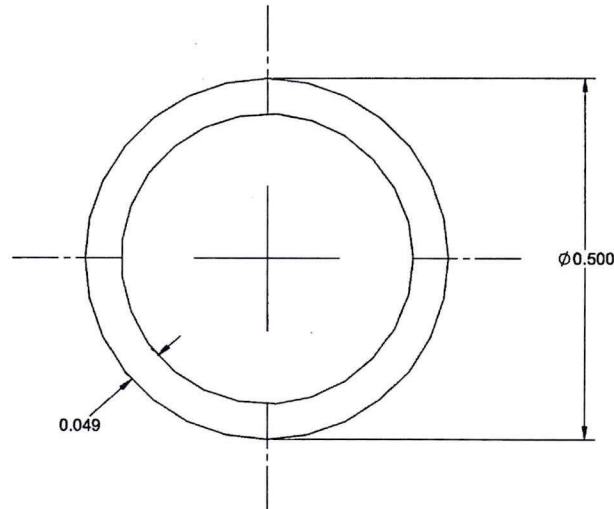
Plex 1/18/19 11:50 AM dart.lavoie.chanta

					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
120 QC 18	60 pcs	1/30/19	0.00 0.00		QC 18 - 12	
					QC 18 - 14	
					QC 18 - 22	
					QC 18 - 25	
					QC 18 - 38	
					QC 18 - 38	
					QC 18 - 42	
					QC 18 - 48	
					QC 18 - 58	DAS
					QC 18 - 61	61
					QC 18 - 9	9-89
125 Handfinish - 1-1 Chemical-B4B	60 pcs	1/30/19	0.00 0.00		Handfinish - 1 - 1 - B4B	
					Handfinish - 1 - 2 - B4B	
					Handfinish - 1 - 3 - B4B	
					Handfinish - 1 - 4 - B4B	
					Handfinish - 1 - 5 - B4B	
					Handfinish - 1 - 6 - B4B	
					Handfinish - 1 - 7 - B4B	
					Handfinish - 1 - 8 - B4B	
					Handfinish - 1 - 9 - B4B	
					Handfinish - 1 - 10 - B4B	
					Handfinish - 1 - 11 - B4B	
					Handfinish - 1 - 12 - B4B	
					Handfinish - 1 - 13 - B4B	
					Handfinish - 1 - 14 - B4B	
					Handfinish - 1 - 15 - B4B	
					Handfinish - 1 - 16 - B4B	
					Handfinish - 1 - 17 - B4B	
					Handfinish - 1 - 18 - B4B	
					Handfinish - 1 - 19 - B4B	
					Handfinish - 1 - 20 - B4B	
					Handfinish - 1 - 21 - B4B	
					Handfinish - 1 - 22 - B4B	
130 Packaging 3-1 - Stock - B4B	60 pcs	1/30/19	0.00 0.00		Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	

				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	2/19/01/29
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
140	QC21-SA FT	60 ft	1/30/19	0.00 0.00	QC 21 - SA - 21
Part Op 110 - (Receive & Inspect for Damage & Mat'l Certs) Descriptions: 120 - (QC18 In-Coming Inspection Material) 125 - HandFinish1 (Chemical Conversion Coat per QSI005 4.1) 130 - Identify as per dwg & Stock Location: _____ 140 - (QC21- Final Inspection - Work Order Release)					
Job BOM					
Part / Item	Component Name	Quantity	Operation	Container	
D6210P	304 Tube, Seamless 1/8 Hard 0.500" x 0.049" wall	60 ft (1 ea)	100-Purchasing - Ft	S148899	
01/29/19 MAT 28					
Job Allocations					
Operation	Component Part	Required	Inventory	Allocated	
100-Purchasing - Ft	D6210P	60	0	0	
Part Specifications					
Specifications could not be found.					

Plex 1/18/19 11:50 AM dart.lavoie.chantal

SPECIFICATION CONTROL DRAWING



D6210-XXX TUBE, SEAMLESS
WHERE XXX IS LENGTH IN INCHES
EG. 144" LONG TUBE: D6210-144

NOTES:

- 1) MATERIAL: AISI 304 SEAMLESS TUBE, 1/8 HARD PER AMS 5566 OR AMS-T-6845 OR MIL-T-6845
MINIMUM ULTIMATE TENSILE STRENGTH = 105KSI
MINIMUM YIELD TENSILE STRENGTH = 75KSI
- 2) FINISH: NONE
- 3) TOLERANCES: PER ASTM A 450/A 450M AS FOLLOWS
O.D.: 0.500 ± 0.004 MEAN (± 0.010 INCLUDING OVALITY)
WALL: $0.049 + 0.010 / -0.000$
LENGTH: XXX $+0.125 / -0.000$
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.24 lbs/ft

A	NEW ISSUE	NO	17.06.20
REV.	DESCRIPTION	BY	DATE
DESIGN	NO	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	NO		
CHECKED	AJS	DRAWING NO.	REV. A
MFG. APPR.	DP	D6210	SHEET 1 OF 1
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	TUBE, SEAMLESS	NTS
DATE	17.06.20	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2017-10-31
EAW 17-728

APPROVED



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042324



Supplier: TWM001-VU
TW Metals
PO Box 933014
Atlanta, GA 31193-3014 USA
Phone: 585 768 5600
Fax: 585 768 5601

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO042324

PO Date: 1/18/19

Due Date: 1/30/19

**Purchase Order
Revision:**

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
JAN 18 2019

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1 AT	189126	D6210P		304 Tube, Seamless 1/8 Hard 0.500" x 0.049" wall : Various STC's receive ea	Firmed	-	1/30/19	60 ft	0 ft	60 ft	\$11.50/ft	\$690.00
2 AT		M304TS0.500W.049		Square Tubing : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH	Firmed	-	1/30/19	400 ft	0 ft	400 ft	\$1.60/ft	\$640.00
3		M6061T6T0.750W.125		6061-T6 Round Tube .750 X .125W : MATERIAL: 6061- T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ- A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	-	1/30/19	48 ft	0 ft	48 ft	\$9.20/ft	\$441.60



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

PURCHASE ORDER

PO042324



Tel (613) 632-5200

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
4		M6061T6T1.000W065		6061T6 Round Tube 1.00 X .065W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	-	1/30/19	36 pcs ✓	0 pcs 36ft	36 pcs AT 1901/25	\$3.6352/pcs	\$130.87
5		M6061T6T0.375W.035		6061-T6 Round Tube .375 X.035W : MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/8 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 40 82 OR AMS 4083 OR ASTM B210 OR ASTM B241 receive ft	Firmed	-	1/30/19	60 ft	0 ft	60 ft	\$3.40/ft	\$204.00
6		M304TR0.500W.035		304 Round Tube .500 X .035W : MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed	-	1/30/19	48 pcs	0 pcs	48 pcs	\$1.8422/pcs	\$88.43

Grand Total: \$2,194.89

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/18/19 12:01 PM dart.lavoie.chantal



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 70715993 FROM: ATLA PAGE 1

CUST NUMBER: 1203820 NET WGT: 18.029 REQ.DATE: 01/30/19 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 01/21/19
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: P0042324 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
0001 36510 SMLS CD 304 6845 1/8 HD 1/2 X .049 17/24 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	60.000 FT	65.250 FT	65.250 FT	15.394	3

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00
PO:49392605 HT:V61273 PC: 3 CUSTOMER QTY: UOM
MLT:JAPAN MFG:UNITED STATES SLB/CL:69248

0002 41879 D6061-T6 3/8 OD X .035 WA 12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	60.000 FT	60.000 FT	60.000 FT	2.635	5

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
PO:49391773 HT:F002767500001 PC: 5 CUSTOMER QTY: UOM
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:F002767500001

BROKERS LIVINGSTON INTERNATIONAL

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
ABF	REDDICRATE	1.000	62.000	4.0000	300.0000	6
Orders In Package - 1		Box No -	TWPK19003245	CUBIC FT	4.1667	
		1.000	62.000			

BY: jonathan Johnson
RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED

DATE FILLED

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



**Packing
Slip**

ORDER NO.: 70715993

FROM: ATLA

PAGE 2

CUST NUMBER: 1203820 NET WGT:

18.029 REQ.DATE: 01/30/19 CONFIRMED

SOLD TO:

SHIP TO:

DART AEROSPACE LTD

DART AEROSPACE LTD

1270 ABERDEEN ST

1270 ABERDEEN ST

HAWKESBURY ON

HAWKESBURY ON

CANADA

CN K6A 1K7

ONTARIO CANADA

CN K6A 1K7

SALESPERSON:

DONNA SMALLEY

TERMS:

NET 30 DAYS

F.O.B.:

SHIPPING POINT

CUST ORD NO.:

PO042324

VIA:

COMMON CARRIER

FREIGHT:

PREPAID

RELEASE NO.:

RECEIVING PHONE:

SHIP BY:

01/21/19

175 TUBEWAY

FOREST PARK

GA 30297

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk

Emma Harn

Date: 1/21/19

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.
<http://www.twmetals.com/invoice-terms.html>



416 DEPOT STREET
BRIDGEPORT, PA 19405

PH: (610) 279-7700
FAX: (610) 277-2005

TEST REPORT



ISO/IEC 17025
Materials Testing Laboratory

TMI Mill#49917-15	TMI Lot#69248	Customer P.O. # M49392605	Quantity 603 ft.
Sold to: TW Metals PO Box 644 760 Constitution Dr. Exton, PA, 19341		Type & Grade 304 Seamless	Size 0.5000" +/- 0.0030 OD 0.0490" +/- 10.0% Wall
☒ FAR TAA ☒ DFARS BAA ☒ FAR BAA		Specifications AMS-5566 Rev. M, MIL-T-6845 TYPE I 1/8 Hard Rev. D, AMS-T-6845 TYPE I 1/8 Hard Rev. B, DFARS Compliant, DFAR 252.225-7014	

Chemical Analysis (Wt %)

HEAT# **V61273** Melt Source / Analysis: KOBELCO STEEL - JAPAN

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	Fe	N
.019	1.80	.022	.004	.33	18.58	9.19	.31	.07	Bal	.0639

Mechanical Properties

Tensile Strength		0.2% Offset Yield Strength		% Elongation	Hardness
132,000	PSI	106,000	PSI	25	
133,000	PSI	98,500	PSI	28	

49392605
TEST REPORTS
ACCEPTED BY
SEP 24 2018
TW METALS

Visual Passed
Grain Size ASTM# 8.5
Passivation PASSED
Flare PASSED > .656" - 74°
Profilometer OD RHR 11 / ID RHR 18
Loose Mtl Check PASSED

Dimensional Passed
Bend PASSED
Embrittlement PASSED
Eddy Current PASSED 10% Notch Level
Hydrostatic PASSED 16,200 PSI
Surface Cond. PASSED

LEAK TEST - PASSED

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6210
DATE: 19/01/29

PO / BATCH NO.: P0042324/S148902

MATERIAL CERT REC'D: Yes
QUANTITY RECEIVED: 65.25ft
QUANTITY INSPECTED: 65.25ft
QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"
THICKNESS RECEIVED: 0.500"
SHEET SIZE ORDERED: —
SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	☒	
CORRECT FINISH	☒	N	
CORROSION	Y	☒	
CORRECT GRAIN DIRECTION	☒	N	
CORRECT MATERIAL PER M-DRAWING	☒	N	AMS 5566
CORRECT THICKNESS	☒	N	
PHOTO REQUIRED	Y	☒	
CORRECT REF # TO LINK CERT	☒	N	HT: V61273
CORRECT MATERIAL IDENTIFICATION	☒	N	
CORRECT M# ON THE MATERIAL	☒	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	☒	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>61</u> DATE: <u>19/01/29</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in